

COURTSHIP IN THE RING-NECKED DUCK

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IN spite of there being an able monograph on the Ring-necked Duck (*Aythya collaris*) (Mendall, 1958), as well as occasional notes on breeding behavior from Audubon (1843) to Johnsgard (1955), in general the species has not been reported on extensively during courtship, which has been well defined by Morris (1956) as, "the heterosexual reproductive communication system leading up to the consummatory sexual act."

The spring of 1962 was the first one in which considerable sexual activity among the ringnecks in our captive population at Litchfield was observed. In March, two pairs were released on the main pond. The four birds paired up at once and proceeded to swim about as two separate couples. Both pairs maintained, however, a certain relation to each other. Normally they swam perhaps 40 to 50 yards apart, but in the same area of our large two-acre pond. The pairs thus were moderately close or in contact while swimming and displaying. The greatest activity periods during late April and May occurred in sunlight from about 10 AM to 12 or 1 PM. At other times display activity was less frequent. The display postures of these Ring-necked Ducks are described and discussed below.

NECK-STRETCH

One male approaches his own female and lifts his head extending his neck fully. The female, if she is overtly responsive, lifts her head also, extending the neck. This is called "neck-stretching" by Hochbaum (1944) and is presumably homologous in an evolutionary sense to the "chin-lifting" of *Anas* species. At this time the head plumage of the male is erected and puffy. Neck-stretch may occur at the commencement of each encounter perhaps every 10 minutes during the typical 3-hour period, and again rarely during the less active hours.

MALE THREAT

The other male may leave his female and approach male No. 1. If this occurs, male No. 1 is likely to contract the plumage of the head as if he were about to dive underwater, lower the head pointing toward male No. 2, the interloper, in a "threat" posture. Such a threat almost always prevented male No. 2 approaching any closer to female No. 1. Three or four times in the spring I saw one male approach closely and attempt to display or to chase the female of the other pair. On two of these occasions the female of the other pair joined her mate in rebuffing the male physically as described in the next paragraph.

FEMALE THREAT

Male No. 2 may turn away, but never responds with a corresponding threat gesture. The females have not been noted in threat postures. Instead, on occasion, one will gather herself and make a sudden rush at a male, not her own mate.

MUTUAL DISPLAY

If the female meets the initial Neck-stretch with a Neck-stretch of her own, the pair will often proceed to swim together. This is similar to Johnsgard's (1955) description when he writes that, "the female showed no return response, except occasionally to swim ahead with a burst of speed." As they swim together, sometimes joined at a distance by the second pair, also swimming purposefully, the male will make the "Head-throw" (Fig. 1), coinciding with high cheeplike noise described by Audubon (1843) and



FIG. 1. Head-throw of male Ring-necked Duck.

Johnsgard (1955). This note must be equivalent in a biological sense to the "ick-ick" note given during the Head-throw of the Canvasback (*Aythya valisineria*).

The Head-throw of the ringneck is complete, the crown of the head resting for a fraction of a second on the back feathers between the wings.¹

BURPING

A variation of the Head-throw occurs at times when the neck is slightly stretched and raised in a forward thrust. I have never heard any call at this time, although the posture appears to be homologous in an evolutionary sense to the "burping" of the surface feeders or the uttering of the *coo* or *qu-err* courting notes of the Canvasback or Redhead (*Aythya americana*).

LATERAL THREAT DISPLAY

A type of threat display I saw this spring apparently does not appear in the literature. At certain moments when one male approaches the other male near the latter's mate, there is no typical male threat of the type described above. Rather, both males swim very slowly approximately side by side and one to three feet apart, facing in the same direction, and appear to compress the feathers of one side, the side facing the rival, in such a way as to remind me of the typical compressed lateral male to female display of the Golden (*Chrysolophus pictus*) or Lady Amherst (*C. amherstiae*) Pheasants. The posture is erect and stiffened but the neck is not greatly stretched. Viewed head-on (Fig. 2) the two

¹ Not all males, at least in captivity, will perform the Head-throw. I believe this is the reason for the essentially incomplete records of breeding display. Perhaps the physiological condition of the birds is crucial. It is not apparent why displays occur at such different levels. Lorenz (1941) refers to "levels of intensity" among the surface-feeding ducks, as producing varying rates and degrees of display, and it has seemed to me in the past that there is probably a correlation between the emotional and physiological states of the birds under conditions of captivity which may result in not always showing a complete and entire set of heterosexual communication signals leading up to copulation.

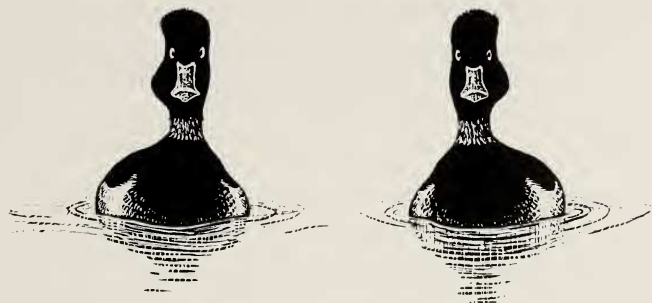


FIG. 2. Two male Ring-necked Ducks showing lateral threat display.

birds appear lopsided as they are not symmetrical in outline, one side rather flattened, one normally rounded. It would appear to be a lateral threat display, with the compacted feathers of the normal threat display related only to the side facing the rival, and with a modified Neck-stretch position.²

After this display has ceased, the interloping male always swam away, impressing me that in fact threat had been involved and that the threat had been successfully overcome by this distinctive posture.

COPULATION

Copulation follows the pattern described by Hochbaum (1944) for the Canvasback. I have not found any significant display associated with the act, nor have I noticed post-copulatory displays aside from stretching and wing flapping.

SUMMARY

Certain display postures of the Ring-necked Duck are described and contrasted with the previous known literature. A type of lateral display related to the typical threat display, with an added component from the Neck-stretching display, is described, apparently for the first time.

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² Since observing this lateral threat display in the ringneck, I have been on the watch for it in other displaying pochards, and have now seen it in two males of the Southern Pochard (*Aythya erythrothalma*).